

REDESCRIPTION OF TWO OF CANESTRINI'S 1884 SPECIES OF AUSTRALIAN ACARINA

BY H. WOMERSLEY, SOUTH AUSTRALIAN MUSEUM

Fig. 1-3

SYNOPSIS

Fresh material referable to the two species of Aearina-Mesostigmata described and figured by Canestrini 1884, as *Laelaps doliacanthus* and *Laelaps coniferus* has now been studied and the species are redescribed and refigured. Two new genera *Cosmetolaelaps* and *Conolaelaps* are erected for the species respectively. The nymph of *doliacanthus* and male and nymph of *coniferus* are described and figured for the first time.

INTRODUCTION

In 1884 Canestrini described a number of species of Aearina from material collected in Queensland by Prof. Palle of Padova University. Amongst these were *Laelaps doliacanthus* n. sp. and *Laelaps coniferus* n. sp. neither of which has since been collected or recognized although Rainbow (1906) in listing Canestrini's records states that there are in the Australian Museum specimens which are probably this species collected by S. J. H. Moreau at Antonio, near Rydal, New South Wales. At my request for the loan of these specimens, Mr. A. Musgrave, Entomologist, Australian Museum has very kindly searched the collections, but failed to find the preparations. It must therefore be considered that the specimens have been lost over the years.

Recently, however, specimens which undoubtedly belong to *doliacanthus* were found on an old slide in the South Australian Museum collection. The slide was labelled "*Laelaps*, sp. off *Onthophagus laminatus* MacL., Townsville, Queensland—F. H. Taylor", without any date of collection. Taylor, however, was working in that area in the 1920's. Canestrini stated that he had several specimens from on a lamellieorn" beetle, briefly described both sexes, and gave recognizable figures of the male venter and dorsum and of the male chela.

Laelaps coniferus n. sp. was described from specimens found in a vial of insects collected by Prof. Pulle in Australia. Canestrini shows (fig. 4) a recognizable figure of the ventral surface although it is now clear that it is not quite correct in certain details. Specimens referable to *coniferus* have recently been collected from millipedes in a rotting Eucalypt log at Hampton, 30 miles NE of Toowoomba, Queensland, October 3rd, 1956 by Dr. G. F. Bornemissza. Only the females were found by Canestrini, but Bornemissza's material comprised both sexes and a solitary ecdysing nymph.

As both the above species are unique amongst the Laelaptidae in many features, new genera are erected for them; viz., *Cosmetolaelaps* for *dolicacanthus* and *Conolaelaps* for *coniferus*.

Genus *Cosmetolaelaps* nov.

Laelaptidae with 2-tined specialised seta on palpal tarsus. Dorsal shield entire, covering almost the whole of the dorsum in both sexes, furnished with ca. 31 pairs of generally long and strong ciliated setae of which 3 pairs are laterad of the shield and all but the posterior pair are anterior of the mid-dorsal line.

Female without pre-endopodal shields; sternal shield much wider than long with 3 pairs of setae; metasternal shields absent, represented only by seta and pore; genital shield short and drop-shaped with one pair of setae; no ventral shield; anal shield broadly pear-shaped with the paranal setae in line with the posterior of anus, postanal seta the longest; endopodal shields of coxae III and IV well defined and free. Legs shorter than body, II somewhat stouter than others; tarsi with pad-like caruncle but without claws. Gnathosoma normal with 4 pairs of setae, the posterior two pairs ciliated. Tectum roughly triangular.

Male with the sternal, genital, metasternal and ventral shields coalesced, finely punctate with striate lines, the combined shield narrowest between coxae IV then expanding and narrowly separated by striate cuticle from the separate anal shield; sternal setae of moderate length and stronger than in female, metasternal setae strong and very long reaching to tip of ventral shield; genital setae also strong and long; ventral shield with two pairs of short lateral setae; anal shield with the postanal seta much longer than the paranal. Stigma between coxae III and IV with the peritremal shield extending shortly posteriorly and the peritreme running to coxae II. Gnathosoma as in female. Chelicerae similarly with each finger

stout and furnished with one strong tooth, movable finger with a long, backwardly directed spermatophore carrier, the tip of which itself is also chelate. Legs not longer than body, all tarsi with pad-like caruncles and no claws; leg II very stout, tarsus apically with 3 strong spines.

***Cosmetolaelaps doliacanthus* (Canest. 1884)**

Laelaps doliacanthus Canest. 1884. Acari dell'Australia. Atti Ist. Veneto, 2 Ser. VI: 709. tav. VII, fig. 2, 3; Rainbow, 1906. Synopsis of Australian Acarina. Rec. Aust. Mus. 6: 172.

Fig. 1 A-E, 2 A-F

A strong sclerotised brown species of oval form; with the above generic characters. The following specimens are described.

A single female of idiosomal length 750μ and width 520μ , and legs I 480μ long, II 480μ , III 460μ and IV 550μ . Dorsal shield 690μ long by 430μ wide, with a number of pores and 31 pairs of long to very long strong ciliated setae, the longest being the two posterior setae to 290μ . Ventrally the sternal shield is strongly and finely punctate with striate lines, 244μ wide by 108μ long medially, anterior margin lightly concave, posterior margin lightly concave with 3 excavations of which the median is the deepest, with 3 pairs of strong setae 47μ long, and two pairs of pores; metasternal shields only represented by a seta 45μ long and a small pore; genital shield as figured, slightly wider than long, 117μ by 94μ , with one pair of setae 42μ long; anal shield as figured, 117μ long by 125μ wide, paranal setae 40μ long, postanal seta 70μ long, cribrum present; on ventral cuticle with 9 pairs of small setae.

Two males, one of 800μ idiosomal length and 610μ width, the other 890μ length, 670μ width. Length of legs respectively, I 580μ (590μ), II 700μ (730μ), III 550μ (580μ), IV 730μ (812μ). The following measurements are from the smaller specimen; dorsal shield 754μ long by 600μ wide; posterior dorsal setae 450μ long; the combined sternal, metasternal, genital and ventral shield 440μ long, sternal portion 255μ wide, ventral portion 244μ wide, separated posteriorly from anal shield by 35μ ; anal shield 116μ by 116μ ; sternal shield with 3 pairs of normally placed setae 94μ long; metasternal setae very long to 235μ and strong; genital setae also very long to 155μ and strong; lateral setae on ventral portion 37μ long; paranal setae 80μ long, postanal 145μ . Legs as figured, femur, genu and tibia each

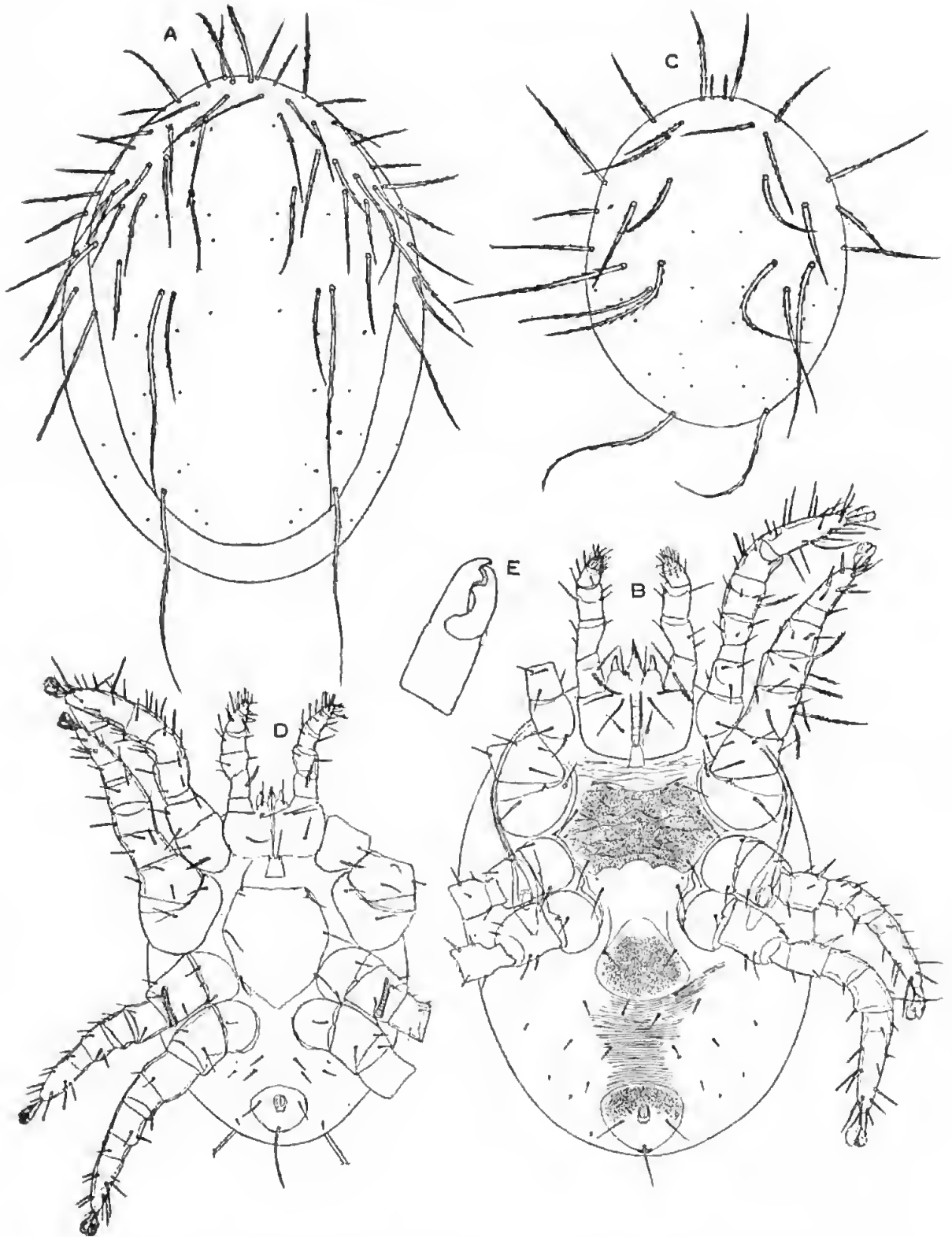


Fig. 1. *Cosmetolaelaps dollicanthus* (Canest. 1884). A-B. Female of 750 μ length mounted, A. Dorsum, B. Venter. C-D. Nymph of 510 μ length mounted, C. dorsum, D. venter. E. Chelicere of female.

with apophyses on II, and tarsi II with 3 strong apical spines; leg IV with a small stout posterior spine on femur.

A single nymph of idiosomal length 510μ , width 360μ , as figured. Legs I 420μ long, II 406μ , III 370μ , IV 406μ . Dorsal setae as figured,

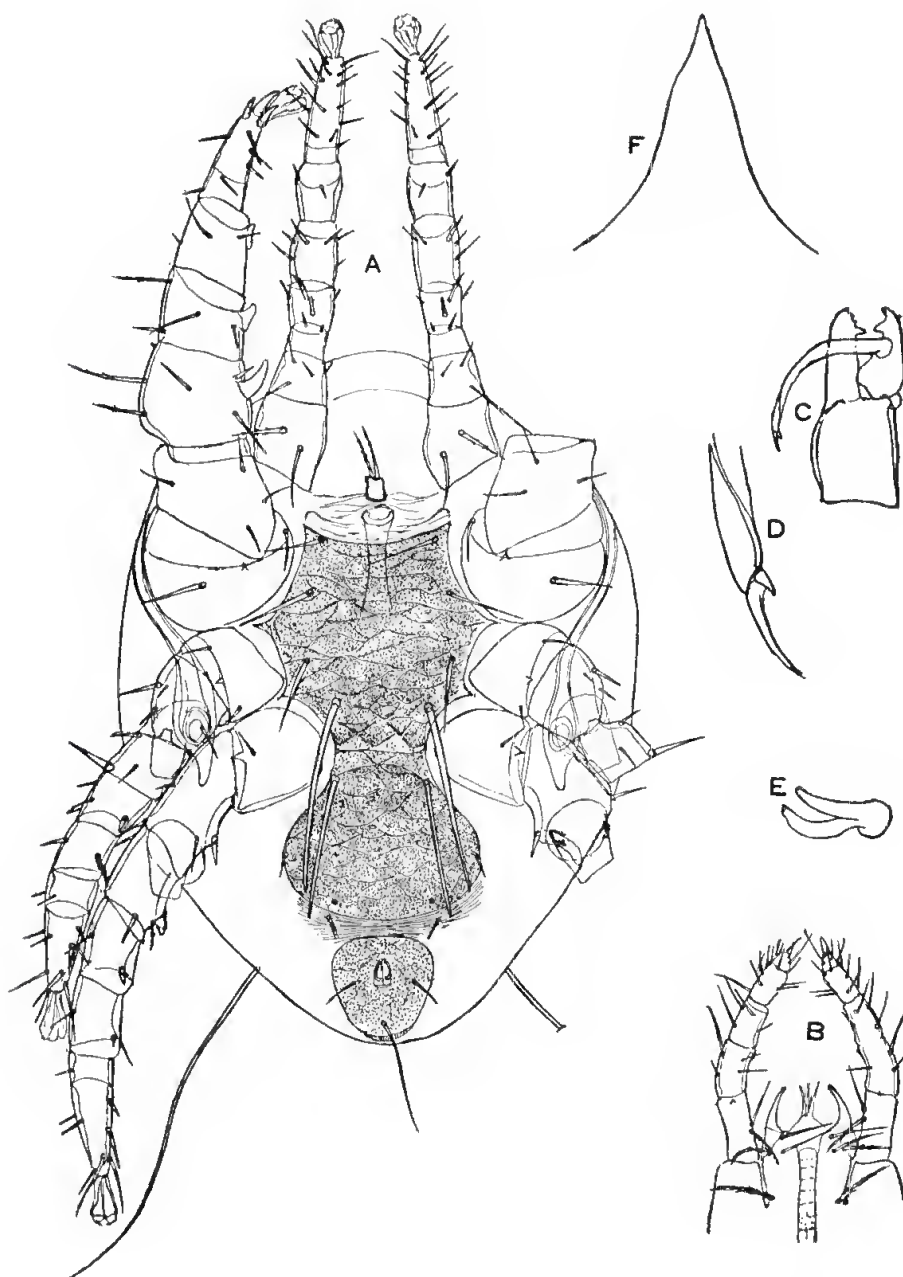


Fig. 2. *Cosmetolaclaps dolicanthus* (Canest. 1884). Male of 800μ length mounted. A. Venter. B. Gnathosoma and palpi. C. Chelicerae. D. Tip of spermatophore carrier much enlarged. E. Tined seta of palpal tarsus. F. Tectum.

14 pairs, posterior to 235μ long. Venter as shown with a shield-shaped sternal shield with 3 pairs of fine setae. Peritreme short and not extending beyond coxae III.

Locality. The above specimens were found mounted in "balsam" on an old slide in the S.A. Museum collections. The slide was labelled by the late F. H. Taylor as *Laelaps* sp. and the specimens had been collected by him at Townsville, Queensland (no date, but probably in the early 1920's) from *Onthophagus laminatus* Macl.

Remarks. No record of this species apart from the doubtful one by Rainbow (1906) has been made since Canestrini's original description of specimens collected by Prof. Pulle in Queensland from a lamellicorn beetle. Canestrini described both sexes, but only figured the male. The female and nymph are now described and figured.

Genus *Conolaelaps* nov.

Laelaptidae with 2-tined specialised seta on palpal tarsus. Of ovoid shape with entire dorsal shield completely covering body in both sexes. Dorsum with a number of pores and some exceedingly minute setae.

Female without pre-endopodal shields, sternal shield longer than wide with 3 pairs of setae, of which setae II and III are short and cone-like, anterior edge deeply excavate, posterior rounded; metasternal shields absent, only represented by small cone-like setae between the well developed free endopodal shields of coxae III and IV; genital shield small, flask-shaped with cone-like setae and widely separated from the oval anal shield; between the genital and anal shield with 4 pairs of cone-like setae; other setae on ventral cuticle minute and simple. Legs fairly stout and shorter than body, with normal setae except on coxae IV which has the seta cone-like, tarsi with strong pad-like caruncle and now claws. Stigma between coxae III and IV and peritreme extending to coxae II. Tectum a pointed cone. Gnathosoma and chelicerae normal.

Male with the facies of the female but smaller. With a combined sternal to anal shield with 7 pairs of small conical setae. Male genital opening in the anterior of the sternal shield. Legs stout as in female but tarsi I with a pair of strong claws and tarsi II-IV with 2-5 small cones ventrally. Chelicerae of male consisting of only the movable finger which is long as figured. Tectum conical with rounded apex.

Conolaelaps coniferus (Canest. 1884)

Laelaps coniferus Canest. 1884. Acari dell'Australia. Atti ist Veneto 2 Ser. VI: 711. tav. VII, fig. 4.

Fig. 3 A-L

Redescription of Female. Body egg-shaped, widest between coxae II and III. Dorsal shield covering entire body and furnished with many pores and exceedingly minute setae difficult to distinguish from pores. Length of idiosoma to 670μ , width 410μ (Canestrini gives 530μ and 230μ respectively). Legs shorter than body and rather stout, length in a specimen of only 638μ idiosomal length, I 390μ , II 325μ , III 348μ , IV 440μ , setation generally minute and simple except the seta on coxae IV which is a small short cone; all tarsi with large caruncular pad and no claws. The sternal shield is shield-shaped with a deep anterior excavation within which are the minute simple sternal setae I, sternal setae II and III are small and coniform the posterior margin is deeply rounded and extends to inner angles of coxae III; only the endopodal shields of coxae III and IV are present, free and well defined; the metasternal setae only are present and are coniform; the genital shield is small, flask-like, with one pair of small coniform setae; the sternal shield is 141μ wide by 126μ long medially and the genital 56μ long by 33μ wide; the anal shield is as figured 70μ long by 70μ wide with minute setae. The stigma is between coxae III and IV but the peritreme is relatively short only reaching to between coxae II and III. The gnathosoma has probably the usual 4 pairs of setae but these are minute and difficult to ascertain. Chelicerae as figured with one medium sized tooth on each finger.

Description of Male. Of similar facies to female. Length of idiosoma 430μ , width 300μ . Legs I 370μ long, II 290μ , III 290μ , IV 350μ . Dorsum as in female. Ventrally all the shields are coalesced to form a single holovenral shield, the anterior sternal margin of which is excavate as in the female. Sternal setae I are minute and simple and lie within the anterior excavation, the holovenral shield itself with 7 pairs of small coniform setae and posterior of coxae IV 4 or 5 pairs of minute setae besides the anals. Legs are stout and similar, the tarsi armed as in the generic description. The chelicerae are considerably modified, the fixed finger being absent, the movable finger being elongate and untoothed as figured.

Description of Nymph. One specimen with idiosoma 508μ long and 300μ wide and legs I 380μ long, II 310μ , III 290μ , IV 380μ , shows

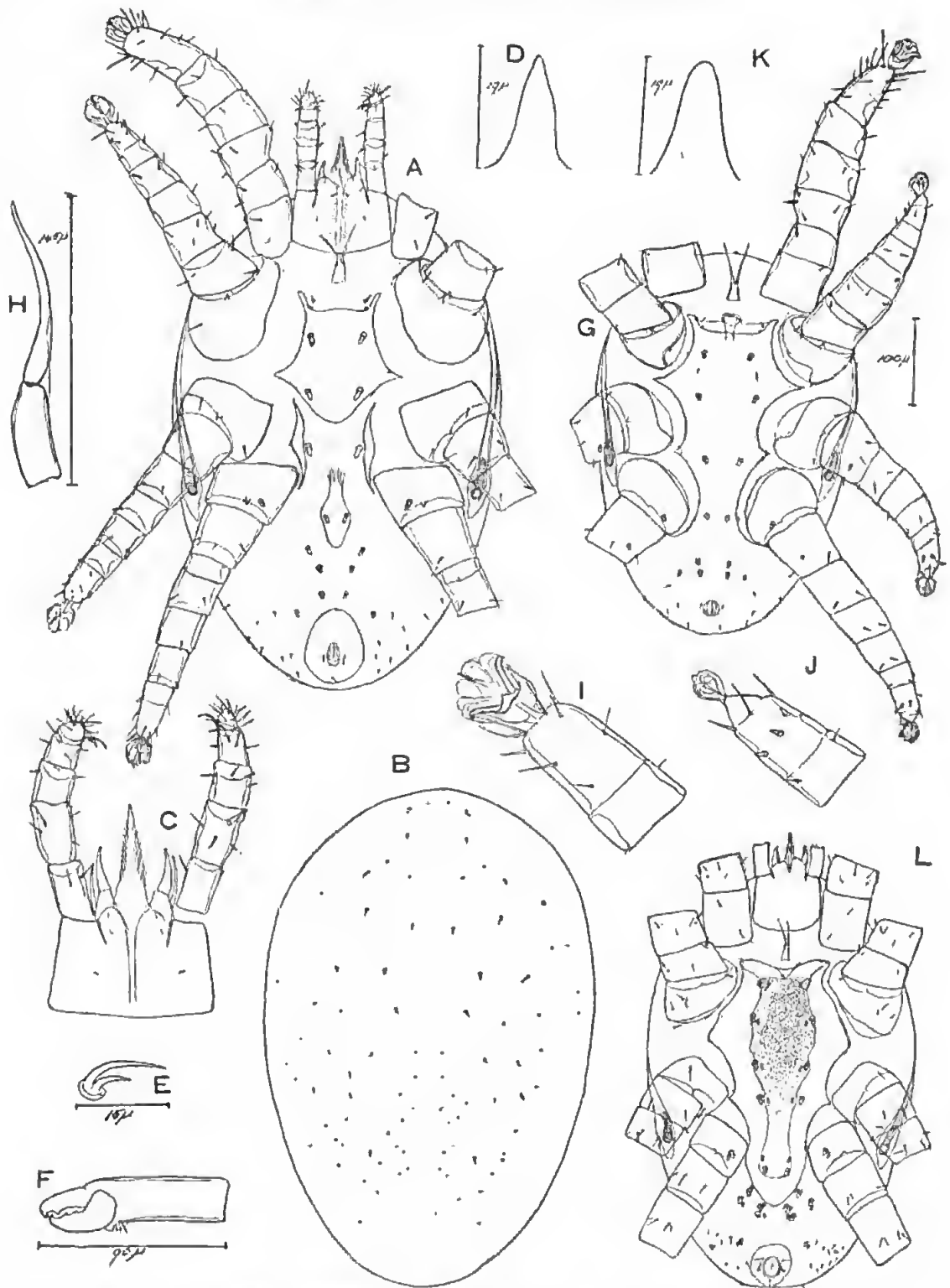


Fig. 3. *Conolaelaps coniferus* (Canest. 1884). A-B., D-F. Female of 640μ length mounted, A. venter, B. dorsum, D. tectum, E. tined seta of palpal tarsus, F. chelicerae. C., G.-K. Male of 430μ length mounted, C. gnathosoma from below, with right palpi from above, G. venter, H. chelicerae, I. tarsus 1 from below, J. tarsus IV from below, K. tectum. L. Nymph of 508μ length mounted showing ecdysis between proto- and deutonymphal stages.

the ? protonymphal features still within the skin of the next stage (? deutonymph), the various setae being duplicated as figured.

Locality. Four females, one male and one nymph from millipede under a Eucalyptus log, Hampton, 30 miles NE of Toowoomba, Queensland, 3rd October, 1956 (coll. G. F. Bornemissza).

Remarks. Canestrini described this species as *Laelaps coniferus* from specimens found in a tube of insect material collected by Prof. Pulle in Queensland. His description is somewhat brief and his figures inaccurate as far as the delineation of the genital and ventral shields are concerned. From his figure, although the characteristic coniform setae are arranged as shown it is evident that he failed to see the outlines of the genital and anal shields and the transverse line which he shows running between the coxae IV is erroneous. The sternal shield is as shown in his figure. Canestrini only had the female sex, but in the material collected by Dr. Bornemissza I found one male and one nymphal specimen which is evidently in process of ecdysis from proto-to deutonymph.

REFERENCES

- Canestrini, G., 1884: Acari dell'Australia Atti ist. Veneto, 2 Ser. VI: 705-730.
- Rainbow, W. J., 1906: A Synopsis of Australian Acarina. Rec. Aust. Mus., 6: 145-193.